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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,763	12/11/2001	Juan A. Garay	8-32	6594

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EXAMINER

LEMMA, SAMSON B

ART UNIT PAPER NUMBER

2132

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,763

Applicant(s)

GARAY ET AL.

Examiner

Samson B. Lemma

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. **Claims 1-25** have been examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 2** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 recite the limitation "**having a computational efficiency compatible with computational resources of the user device**". This term is not only vague but also not clear. The claim has to be rewritten so that there would not be any ambiguity. For the purpose of examination the limitation is taken out from the respective claim.

4. **Claim 3** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 recite the limitation "**...having a computational efficiency lower than that of the first digital signature protocol.**" This term is not only vague but also not clear. The claim has to be rewritten so that there would not be any ambiguity. For the purpose of examination the limitation is taken out from the respective claim.

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5. **Claims 4-8** depend from rejected claim 2 and 3, and include all the limitations of the respective claim, thereby rendering those dependent claims indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-7,9-10,17, 19-25** are rejected under 35 U.S.C. 102(e) as being anticipated by **Aura**. (hereinafter referred to as **Aura**) (U.S. Patent No. 6,711,400 B1).
8. **As per claim 1 and 22-25** **Aura** discloses a method for use in generating digital signatures in an information processing system, the system including at least a user device, an intermediary device and a verifier, the method comprising the steps of:
- Generating in the user device a first digital signature;** [Figure 4, reference “405” and ref. Num “SRES1”] and **sending the first digital signature to the verifier;** [figure 4, ref. Num “406”] **wherein the verifier sends the first digital signature to the intermediary device,** [figure 4, ref. Num “407” and ref. Num

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“SRES1”] and the intermediary device checks that the first digital signature is a valid digital signature for the user device [figure 4, ref. Num “408”] and if the first digital signature is valid generates a second digital signature [figure 4, ref. Num “SRES2”] which is returned to the verifier as a signature generated by the user device [Figure 4, ref. “SRES2” and Num “409”].

9. **As per claim 2, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above. Furthermore Aura discloses the method wherein the first digital signature is generated using a first secret key. [See figure 4, ref. Num “405” and secret Key “Ki” and “SRES1”]

10. **As per claim 3, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above. Furthermore Aura discloses the method wherein the second digital signature is generated using a second secret key [See figure 4, ref. Num “407” and secret key “KI” and “SRES2”]

11. **As per claim 4 and 5, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above. Furthermore Aura discloses the method wherein an agreement relating to corresponding public keys of the first and second digital signature protocols is signed by both the user device and the intermediary device and the resulting twice-signed agreement is stored by both the user device and the intermediary device. [Figure 4]

12. **As per claim 6, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above. Furthermore Aura discloses the method wherein **the first digital signature comprises a signature s1 on a message m**, [figure 4, ref. 405 and “SRES1”] the

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signature s1 being generated using a secret key s' [figure 4, ref. Num "405" and "Ki"] associated with the user device. [figure 4]

13. **As per claim 7, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above. Furthermore **Aura discloses the method wherein the first digital signature comprises a signature s1 on h(m), [figure 4, ref. Num "405" See H1] where m is a message and h is a hash function, the signature s1 being generated using a secret key s' [figure 4, ref. Num "405" and "Ki"] associated with the user device. [figure 4]**

14. **As per claim 9, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above. Furthermore **Aura discloses the method wherein the second digital signature comprises a signature s2 on a message m, [figure 4, ref. Num "SRES2"] the signature s2 being generated using a secret key s [figure 4, ref. Num "407" See KI] of associated with the user device. [figure 4]**

15. **As per claim 10, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above. Furthermore **Aura discloses the method wherein the second digital signature comprises a signature s2 [figure 4, ref. Num "407", "SRES2"] on h(m), where m is a message and h is a hash function, [Figure 4, ref. Num "407" and H2] the signature s2 being generated using a secret key s [figure 4, ref. Num "407" See KI] of associated with the user device. [figure 4]**

16. **As per claim 17, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above. Furthermore **Aura discloses the method wherein the intermediary device is configured to wait a predetermined delay period between checking that the first digital**

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signature is a valid signature and generating the second digital signature which is returned to the verifier. [Figure 4, ref. Num "408"]

17. **As per claim 19-21, Aura discloses** a method for use in generating digital signatures in an information processing system as applied to claim 1 above.

Furthermore **Aura discloses the method wherein** the user device comprises a mobile telephone.[figure 1]

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. **Claims 8,11-16,18** are rejected under 35 U.S.C. 103(a) as being unpatentable **Aura**. (hereinafter referred to as **Aura**) (U.S. Patent No. 6,711,400 B1).

in view of **Micali et al**, (hereinafter referred to as **Micali**) (U.S. Patent No. 5,016,274)

20. **As per claim 8,11-16 and 18** **Aura** discloses verifier upon receipt of the first digital signature checks that the first digital signature is a valid digital signature using [Figure 4, ref. Num "409"]

Aura does not explicitly disclose that verifier upon receipt of the first digital signature checks that the first digital signature is a valid digital signature **using a first public key corresponding to the first secret key**.

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However, in the same field of endeavor, **Micali** discloses that verifier upon receipt of the first digital signature checks that the first digital signature is a valid digital signature **using a first public key corresponding to the first secret key.**

[Figure 1, ref. Num "34"]

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the features of verification digitat signature using the public key as per teaching of Micali in to the method verification as taught by **Aura**, in order to enhances the security and efficiency of known signature schemes.[See Micali Column 1, lines 7-9]

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (See PTO-Form 892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samson B Lemma whose telephone number is 571-272-3806. The examiner can normally be reached on Monday-Friday (8:00 am---4: 30 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BARRON JR GILBERTO can be reached on. The fax phone number for the organization where this application or proceeding is assigned is 571-272-3799. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAMSON LEMMA

S.L.

05/26/2005

Justin Darrow
JUSTIN T. DARROW
PRIMARY EXAMINER